Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	ET Docket No. 19-138
Use of the 5.850-5.925 GHz Band	)	

REPLY COMMENTS

Respectfully submitted,

Continental Automotive Systems

Kirby Howard
Government Affairs
Continental AG
1101 K Street, N.W., Suite 1000
Washington, D.C. 20005

Alan G. Fishel
Jeffrey E. Rummel
ARENT FOX LLP
1717 K Street, NW
Washington, D.C. 20006
(202) 857-6450

Its Attorneys

Dated: April 27, 2020

TABLE OF CONTENTS

SUMMARY

As numerous commenters have shown, V2X can save so many Americans from dying in motor vehicle accidents. And while the Commission asked a lot of questions in the Notice, there is truly just one at the heart of this proceeding: will V2X have sufficient spectrum to do so?

Continental requests that the Commission take one of the two following steps: (1) issue a decision in this proceeding retaining all 75 MHz for V2X, or (2) if the Commission is not yet willing to do that, take the time necessary before making any decision to coordinate and work with the United States Department of Transportation ("US DOT"), state DOTs, and other major stakeholders in the transportation industry to ensure that the Commission renders a decision that carefully takes into account all of the facts, analysis, and conclusions of US DOT, state DOTs, and those other entities.

In the United States and in many other countries, as a result of the pandemic there is a tremendous tension between doing everything we can do to minimize loss of life and the extent to which, and the pace at which, we reopen the economy. In this proceeding, however, there is no conundrum between doing what is in the best interest of saving as many lives as possible and doing what is in the best interest of the economy. They both point in the same direction – retaining all 75 MHz for V2X.

US DOT, all 50 State DOTs, and the vast majority of commenters all strongly support retaining all 75 MHz for V2X. The decision to be made in this proceeding – which bears directly on how many lives will be saved through transportation safety technology – should be made only after the views, facts, and analysis of the US DOT are taken fully into consideration. US DOT is the expert agency on transportation matters and has provided reams of information and analysis, including as recently as last month, demonstrating why the Commission's initial proposal in this proceeding, if adopted, would lead to disastrous transportation outcomes and deaths. US DOT strongly opposes the Commission's initial proposal, and has concluded that reallocating the majority of the 75 MHz of ITS spectrum will significantly reduce or eliminate the utility of V2X communications and is simply "unworkable." The Commission should continue to work with US DOT, with the goal being that any final decision on such major transportation safety issues be made with the full support of US DOT - the substantive agency expert in this arena. US DOT has asked the Commission to sit down and work together to ensure that a decision can be reached that best protects Americans to the satisfaction of both agencies. If this cannot be accomplished, the lives and safety of Americans will be subjected to grave and unnecessary risk.

All 50 state DOTs (plus Washington D.C.'s and Puerto Rico's DOTs) oppose the Commission's initial proposal as well. It is exceedingly rare that all of the states agree on anything, let alone something major, but here they do. In this case, we truly have the UNITED STATES of America in opposition to the initial proposal.

In addition to the unwavering opposition of US DOT and every state DOT, the transportation community at-large opposes the Commission's initial proposal. Moreover, the overwhelming majority of commenters in this proceeding do as well. This includes not only US DOT, all state DOTs, and the transportation community at-large, but also safety-related organizations, engineering groups, and other organizations that are deeply concerned about Americans' safety, including first responders. The Commission should take into account all of their concerns.

The overwhelming majority of commenters that oppose the Commission's initial proposal include even AT&T, Qualcomm, T-Mobile, and LG. AT&T and Qualcomm are each heavily involved with respect to both unlicensed devices and V2X. Yet, they not only oppose the Commission's initial proposal, they don't even think it is a close call. Finally, even a bipartisan group of 38 Members of Congress, including both the Chairman and Ranking Member of the House Transportation and Infrastructure Committee, wrote to the Commission strongly urging it to retain all 75 MHz for ITS, noting that it is rare for the state Departments of Transportation to all agree on a subject – but they agree here.

At the very least, before concluding this proceeding, the Commission should pause and work with the transportation industry, including US DOT, to make sure that no decision is made unless and until the Commission is fully informed and has fully analyzed every single relevant issue.

There are many critical current, near term, and long-term safety and other benefits of V2X. Accidents are the third leading cause of death in the U.S. behind only heart disease and cancer, and motor vehicle accidents are one of the leading causes of death by accident. Motor vehicle accidents are the number one cause of death in the U.S. for children. It is axiomatic that governmental actions that will cause those numbers to remain high should be avoided. US DOT has warned that it is "imperative to the Department" that all 75 MHz remain with V2X for "transportation safety and other intelligent transportation purposes." US DOT further refers to the "immense safety and other transportation benefits" of V2X. If the Commission withholds these immense transportation safety benefits of V2X by reallocating most of the existing 75 MHz of spectrum, the Commission's action will have fatal consequences. To be clear, many safety benefits of V2X exist today and will be expanding rapidly, and any suggestion to the contrary by a few commenters that any benefits are decades away is dead wrong and reflects a misunderstanding of how quickly things are now developing in this space. And those few commenters who claim that the benefits of V2X cannot be maximized until almost all vehicles have the technology are making the same mistake that so many others have made on so many others issues over the years – they are letting the perfect be the enemy of the good. V2X can prevent so many non-line-of-sight and other poor visibility accidents, which are often deadly, and the Commission should be taking every possible action now to reduce the numbers of these fatalities as much as possible, rather than pull the rug out from the technology that plays a vital role in addressing these major problems.

There is no question that V2X needs all 75 MHz in this band for safety applications that currently exist, will be deployed shortly, or will be developed in the future. To

shortchange V2X here is to shortchange every single American driver, passenger, or person who crosses roadways whether on foot, bicycle, scooter, or otherwise. This is not about commercial convenience. It is first and foremost about safety. Just by way of example, some V2X applications that will not have the spectrum necessary to be deployed if the initial proposal is adopted are the only thing that can protect many vulnerable road users and others from dying in preventable motor vehicle accidents. US DOT, many state DOTs, and numerous other commenters in the transportation industry, including C2C-CC, have discussed what existing and soon to be developed safety-related V2V/V2I applications will be completely inhibited, or at the very least greatly hobbled, if only 30 MHz is made available for V2X in this band. The message types and applications that will be prevented or significantly undermined if only 30 MHz remains allocated for V2X are set forth in these Reply Comments at Section III.

Late last year, the International Telecommunications Union at its World Radio Conference issued a recommendation that 75 MHz be allotted for V2X. A number of other countries have, in fact, already allocated either 70 or 75 MHz for V2X, including Canada, Russia, South Korea, Australia, Singapore, and United Arab Emirates. So, if the U.S. slashes the spectrum allocation from 75 MHz to 30 MHz for V2X it will fall far behind in terms of what it can use with respect to these life-saving technologies. In addition, many other parts of the world are seeking to expand what they are allocating for V2X, including the European Union and Japan. No regulating entity in the world that we are aware of -- other than the Commission in this proceeding -- is looking to decrease the spectrum allocation for these technologies in its country. The trend is in one direction, and yet the Commission's initial proposal is in the other. If the Commission adopts the approach suggested in its initial proposal, the U.S. will no longer be a leader, it will be left behind, and investments in this technology will go elsewhere. In short, the United States will take a giant step backward and will cede its position as one of the global leaders for development and deployment of life-saving V2X technology. But, most importantly, while other major countries will be saving their citizens from preventable traffic deaths, the Commission will not be enabling the same ability here.

Other applications or bands are not the answer -- V2X is critical and it needs to remain in this band. The Commission states that a goal of this proceeding is to "eliminate[e] uncertainty for the development and deployment of ITS applications." Yet a decision that reduces the spectrum allocated for V2X to an amount far below what it needs, or which proposes starting some other proceeding to shift such operations to other spectrum bands, not only doesn't eliminate uncertainty – it increases it. And that is the last thing the Commission should want to do with life-saving technologies. The mere existence of other vehicle safety applications in different spectrum bands does not eliminate the need for operation of V2X technologies throughout the much more favorable 5.850-5.925 GHz range, contrary to the suggestion of a handful of commenters. As US DOT explained, V2X technology "has capabilities that other vehicle technologies do not. This includes detecting approaching objects outside the line of sight, including from behind buildings or large trucks. These benefits, though, depend on the continued availability of the full 75 MHz and the assurance that V2X communications can reliably occur without interference." In addition, "V2X signals are largely unaffected by environmental conditions, including rain,

fog, snow or darkness, compared to existing onboard sensors. Thus, V2X is uniquely suited for crash scenarios characterized by late "reveal times" …. V2X can also augment other in-vehicle sensors to improve crash prediction capabilities in many other scenarios in which conspicuity of objects, vehicles, or pedestrians is compromised due to environmental and other factors." Contrary to these technical advantages of operating V2X technologies in the 5.850-5.925 GHz range, other limited applications will not help prevent the deaths and life-altering injuries, nor the property damage, that result from non-line-of-sight or poor visibility crashes. There are also numerous problems with the suggestion of a handful of commenters that V2X should just move to another spectrum band. First, as described by so many commenters, V2X is already being used on all channels in this band and to try to start over on another band will – even if possible – require the auto industry to rip out life-saving technology now. So much investment and effort will have been wasted. Second, even if another band was theoretically feasible, it would take many years to regain the status quo - to get to even where we are today in the 5.9 GHz band - let alone where we need to eventually get to. Life-safety technology would be delayed for many more years in which time people will continue to drive their vehicles and traffic fatalities that could have otherwise been prevented, will occur. Third, if forced to start anew and redesign V2X technology for operation in a new band, some commenters have indicated that they will halt their efforts completely. Fourth, other bands are not likely to be workable for V2X. Finally, if V2X is moved to another band the international harmonization that currently exists would still exist and would continue to grow – except the United States would be on the outside looking in.

While 30 MHz is insufficient, V2X may not even have use of at least part of that small amount of spectrum under the Commission's initial proposal because of interference. With Wi-Fi, the difference between a one second delayed transmission is that the entertainment or other non-safety information you were waiting to receive comes a second later. Such delay is not even noticeable. With V2X, however, a one second delay can mean the difference between life and death. Therefore, preventing interference to V2X technology is not optional. The Commission cannot in good conscience take any action to relocate or reduce V2X allocations until all interference testing has been completed, and those results are taken into account. Currently, Phase 1 testing has been completed, but Phases 2 and 3 testing have not. Moreover, US DOT states that its initial testing showed significant interference. Accordingly, there is plenty to be concerned about even with respect to the viability of the insufficient 30 MHz the Commission has tentatively proposed remains with V2X. The Commission should of course have all the testing completed in coordination with US DOT before any final decisions are made. Any decision now is premature at best.

V2X deployments not only exist but have been expanding rapidly over the past several years. Moreover, the significant progress made to date with respect to V2X deployment would have been far more rapid and widespread if it was not for substantial and pervasive regulatory uncertainty caused by Commission action (and inaction) since the inception of this allocation. Such sustained regulatory upheaval – caused not by the transportation industry or the public who was to be benefit from this technology – served only to counter the progress being made and unnecessarily delay the protection of the

nation's drivers, passengers, and pedestrians. The V2X industry and the general public should not be penalized for these uncertainties and any resulting delays they caused. Despite all of these factors, there has been tremendous progress with respect to V2X in the band, particularly over the last several years, and it will continue at a heightened pace unless the Commission stops that progress in its tracks in this proceeding.

Wi-Fi does not need this spectrum to anywhere near the same degree as V2X does. As numerous commenters have pointed out, the Commission has already allocated spectrum for Wi-Fi applications and technology in many different bands. In addition, Wi-Fi has just been awarded an additional 1200 MHz in the 6 GHz band, which is greater than 26 times more spectrum than its supporters are seeking to take away from V2X in this band. Accordingly, the potential benefit in this proceeding that Wi-Fi could receive from a pure spectrum standpoint is less than 1/26 of the benefit it will now be receiving in the 6 GHz band. There is no doubt that this "1/26 non-safety benefit," as compared to what Wi-Fi will now be receiving in the 6 GHz band, does not stack up against what V2X and the public will be losing if the Commission takes the action it is tentatively considering here. In addition, for all the reasons described by many other commenters, it is far easier for Wi-Fi to acquire more spectrum in other bands than it is for V2X to do so.

The cost-benefit analysis in the initial proposal is also flawed. It fails to take into consideration – as so many commenters have pointed out – the extraordinary downside costs, both in terms of lives, injuries, and economic damage, that will occur if the Commission adopts its initial proposal. In addition, the initial proposal overestimates the benefits with respect to Wi-Fi in at least two ways. First, the initial proposal appears to assume that the RAND study in turn assumed that Wi-Fi would be receiving 45 MHz, rather than the full 75 MHz which the RAND study actually used to make its estimates. Second the RAND study itself did not even consider the value that Wi-Fi will now receive from 6 GHz and how that impacts the value of what Wi-Fi could receive here.

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	ET Docket No. 19-138
Use of the 5.850-5.925 GHz Band	)	

REPLY COMMENTS

Continental Automotive Systems ("Continental") hereby submits these Reply Comments pursuant to the Commission's Notice of Proposed Rulemaking ("Notice") released on December 17, 2019 in the above-captioned proceeding.[1] As numerous commenters have shown, V2X can save so many Americans from dying in motor vehicle accidents. And while the Commission asked a lot of questions in the Notice, there is truly just one at the heart of this proceeding: will V2X have sufficient spectrum to do so?

Continental requests that the Commission should at this time take one of the two following steps:

(1) Issue a decision in this proceeding retaining all 75 MHz for V2X,

> Or -
>
> If the Commission is not yet willing to do that, given the primary role and responsibility of the United States Department of Transportation ("US DOT") in determining and implementing U.S. transportation regulation and policy, particularly with respect to transportation safety
>
> - Then

(2) The Commission should take the time necessary before making any decision to coordinate and work with the US DOT, state DOTs, and other major stakeholders in the

[1] "In the Matter of Use of the 5.850-5.925 GHz Band", Notice of Proposed Rulemaking, ET Docket No. 19-138, FCC 19-129 (rel. December 17, 2019). By Public Notice released March 25, 2020, the Commission extended the deadline date for submission of Reply Comments to April 27, 2020 ("Office of Engineering and Technology Extends Reply Comment Deadline for Use of the 5.850-5.925 GHz Band Proceeding", Public Notice, ET Docket No. 19-138 (Rel. March 25, 2020). Accordingly, these Reply Comments are timely filed.

transportation industry to ensure that the Commission renders a decision in this proceeding that carefully takes into account all of the facts, analysis and conclusions of US DOT, state DOTs, and those other entities.

This proceeding will materially impact the future of motor vehicle safety in the U.S., and ***Congress has without a doubt made US DOT the agency responsible for overseeing motor vehicle safety in the United State***s. Congress assigned US DOT the responsibility of ensuring the safety of our nation's transportation infrastructure and systems for the purpose of ensuring the "general welfare, economic growth and stability, and security of the United States."[2] US DOT is also charged under the National Traffic and Motor Vehicle Safety Act "to reduce traffic accidents and deaths and injuries resulting from traffic accidents," and, in order to do so, Congress determined that US DOT must, among other things, "carry out needed safety research and development."[3]

As the substantive agency expert and in fulfillment of its statutory obligation, US DOT has conducted its research and presented it to the Commission. If the Commission ignores or devalues it, US DOT has determined that there will be countless needless traffic accidents, deaths and injuries. US DOT's mission to reduce traffic accidents, and deaths and injuries from traffic accidents, should not be undermined by the Commission here, let alone without full-scale coordination first between the parties.

In that regard, Congress in 1998 spoke directly to the need for the Commission, in carrying out its spectrum-related duties, to "consider, ***in consultation with the Secretary***, spectrum needs

[2] Pub. L.89-670; 49 U.S.C. § 101. Federal law directs US DOT to, among other things: (1) ensure the coordinated and effective administration of the transportation programs of the United States Government; (2) encourage cooperation among governmental bodies and other interested persons to achieve transportation objectives; and (3) develop and recommend transportation policies and programs to achieve transportation objectives considering the needs of the public, users, carriers, industry, labor, and national defense. Id.

[3] 49 U.S.C. § 30101.

for the operation of intelligent transportation systems, including spectrum for the dedicated short-range vehicle-to-wayside wireless standard."[4] And that is precisely what happened when the Commission in consultation with US DOT determined that ITS shall have the right to use the 75 MHz in the 5.9 GHz band.

Given US DOT's general responsibility for setting national transportation policy, its responsibility for overseeing motor vehicle safety, and the directive for the Commission to consult with the Secretary of Transportation on this very spectrum question at issue, Continental believes that if the Commission is still considering its initial proposal the Commission should first confer and coordinate with US DOT. The Commission needs to make sure that it fully and completely understands and analyzes all of the considerable amount of material that US DOT has provided, including the most recent material provided just last month. On a significant matter of transportation safety, further coordination and conferring with US DOT would ensure that those materials are fully appreciated and weighed before the Commission makes a final determination on this proceeding.

The Commission engaged in this type of coordination when it allocated the spectrum originally, and it should certainly do no less here if it is still considering pulling much of that spectrum away. Until the Commission fully and completely analyzes all of US DOT's analysis and facts laid out in the considerable amount of material that it has provided to the Commission – and then communicates and coordinates with US DOT regarding those documents, the Commission should not feel compelled in good conscience to pull more than half of the spectrum away from V2X in this proceeding. If it did, it would not just be doing so at its peril, it would be

[4] Transportation Equity Act for the 21st Century, Pub. L.105-178, § 5206(f), 112 Stat. 107 (1998) (emphasis added).

doing so at the peril of all Americans who drive, are passengers in vehicles, or cross roadways.[5] Indeed, Continental strongly believes that the highest and best use of this spectrum is the use that will save Americans' lives with respect to one of the leading causes of death in this country, i.e. motor vehicle accidents -- not the use that won't.

INTRODUCTORY DISCUSSION

The Coronavirus global pandemic has been one of the most life-altering, fear-inducing, and tragic occurrences that has taken place on a worldwide scale during our lifetimes. Yet it has also provided many of us with perspective on what matters most. But the perspectives gained as a result of this pandemic are not just limited to our personal lives. For example, the pandemic has also helped Continental gain a better perspective on this proceeding that it wants to share with the Commission.

In the United States and in many other countries, as a result of the pandemic there is a tremendous tension between doing everything we can do to minimize loss of life and the extent to which, and the pace at which, we reopen the economy. In this proceeding, however, there is no conundrum between doing what is in the best interest of saving as many lives as possible and doing what is in the best interest of the economy. They both point in the same direction.

One of the leading causes of death each year in the U.S. is motor vehicle accidents. Every year anywhere from about 35,000 to 40,000 are killed in traffic-related accidents in this country. In fact, motor vehicle accidents are the number one cause of death for children in the U.S.

But here is the encouraging news. V2X technology will reduce those numbers significantly as such technology and its applications continue to become more and more prevalent. That will

[5] The Commission should also, of course, carefully review the material and coordinate where necessary with other stakeholders who have provided valuable information to the Commission in this proceeding regarding the needs and activities of the transportation community.

occur, however, only if the Commission in this proceeding does not pull the rug out from under the transportation community and instead the Commission retains all 75 MHz for V2X.

And retaining all 75 MHz for V2X will not hurt the economy at all. In fact, as so many commenters have shown, it will actually help the economy. It is a win-win. But even if it somehow just had a relatively neutral effect on the economy, saving many lives alone would be worth it. It is not even close.

US DOT, the expert agency on U.S. transportation matters, has analyzed in great detail, as have state DOTs and so many others both inside and outside of the transportation community, why pulling away most of the spectrum in this band from V2X would, among other things, have fatal consequences resulting in numerous needless traffic deaths a year in the U.S. Not surprisingly, the overwhelming majority of commenters in this proceeding oppose the Commission's initial proposal, which would undo so much of the life safety and other benefits that V2X is currently providing, as well as what V2X is on the cusp of providing, and also what new applications for V2X in the future will be providing. Any argument to the tune of "*why should we care about V2X now since it will be many years before V2X is in every vehicle?*" is a tragic example of making perfect the enemy of the good. Whether it is 1,000, 5,000, 10,000, or 20,000 lives we save each year, these are Americans, and people whose lives shouldn't needlessly be cut short when we can prevent that. And for what? Why limit the technology's capability and undermine its ability to prevent traffic accidents and fatalities? So that we can provide Wi-Fi, which already has spectrum in so many bands, and which just received 1200 MHz in the 6 GHz band, another 45 MHz (less than 1/26 of what it is receiving in the 6 GHz band)? It is not even close.

The Commission has a well-deserved reputation for making excellent decisions in rulemakings based on a careful review and analysis of all of the relevant facts, and a careful consideration of the ramifications of its decisions. Here, of course, the Commission has not made any ruling yet, but has just raised an initial proposal that we believe is not aligned with its typical way of resolving rulemakings. Continental respectfully suggests that for this proceeding, the nine key points to keep in mind, each addressed in a section below, are as follows:

1. US DOT, all 50 state DOTs, and the vast majority of commenters all strongly support retaining all 75 MHz for V2X

2. There are many critical current, near term, and long-term safety and other benefits of V2X

3. V2X needs all 75 MHz in this band for safety

4. Many other countries have already allocated 70 or 75 MHz for V2X or are heading in that direction

5. Other applications or bands are not the answer -- V2X is critical and it needs to remain in this band

6. While 30 MHz is insufficient, V2X may not even have use of at least part of that small amount of spectrum under the Commission's initial proposal because of interference

7. V2X deployments are expanding rapidly, and any delays have been primarily the result of government action and resulting regulatory uncertainties

8. Wi-Fi does not need this spectrum to anywhere near the same degree as V2X does

9. The cost-benefit analysis in the initial proposal is flawed

I. US DOT, All 50 State DOTs, And The Vast Majority Of Commenters All Strongly Support Retaining All 75 MHz For V2X

The decision to be made in this proceeding – which bears directly on how many lives will be saved through transportation safety technology – should be made only after the views, facts, and analysis of the US DOT are taken fully into consideration. US DOT is the expert agency on transportation matters and has provided reams of information and analysis demonstrating why the Commission's initial proposal in this proceeding, if adopted, would lead to disastrous transportation outcomes and deaths.

As US DOT has warned, if the Commission's initial proposal is adopted, it would result in a "dramatic shift in the current rules and the spectrum allocation for transportation use,"[6] and such spectrum "plays a key role in promoting life-saving transportation technology."[7] It should go without saying that changes of this magnitude relating to life-saving transportation technology should never be made without at the very least taking fully into account all of the views, facts, and analysis of US DOT - the agency that is the expert on transportation matters.

US DOT strongly opposes the Commission's initial proposal, and has concluded that reallocating the majority of the 75 MHz of ITS spectrum will significantly reduce or eliminate the utility of V2X communications and is simply "unworkable."[8] US DOT's opposition is factually supported, extremely detailed, and persuasive, as would be expected from the federal agency with the expertise on these issues. Specifically, US DOT has made it clear that adoption of the

[6] See Letter from Secretary of Transportation Elaine Chao to Commission Chairman Ajit Pai dated November 20, 2019 "Re: Draft of Notice of Proposed Rulemaking In the Matter of Use of the 5.850-5.925 GHz Band" ("US DOT November 20 Letter"), Memorandum Attachment, p. 1.

[7] See Letter from Steven G. Bradbury, General Counsel - US Department of Transportation to Commission Chairman Ajit Pai dated March 9, 2020, "Use of the 5.850-5.925 GHz Band; ET Docket No. 19-138" ("US DOT March 9 Letter"), p.1.

[8] US DOT March 9 Letter, p. 9.

Commission's initial proposal to reallocate the majority of the 75 MHz of ITS spectrum will have disastrous effects in many respects, including with respect to transportation safety for Americans. For example, in the 58 page US DOT March 9 Letter to the Commission, US DOT describes in tremendous detail a wide array of concerns it has with the Commission's initial proposal, and why that initial proposal should not be adopted. That letter also attached the prior US DOT November 20 Letter to the Commission, which contained 26 pages of additional information and analysis. In these submittals, US DOT made it very clear that if the Commission adopts its initial proposal, so many Americans will needlessly die or be injured each year due to automobile accidents.

As NTIA itself has suggested,[9] the expert analysis of US DOT cannot simply be ignored or disregarded. However, the unfortunate truth is that up until now the Commission has at best devalued, and at worst ignored, US DOT's views and certainly not considered them in a complete and analytical way. It is not too late. The Commission should continue to work with US DOT, with the goal being that any final decision on such major transportation safety issues be made with the full support of US DOT - the substantive agency expert in this arena. US DOT has asked the Commission to sit down and work together to ensure that a decision can be reached that best protects Americans to the satisfaction of both agencies. If this cannot be accomplished, the lives and safety of Americans will be subjected to grave and unnecessary risk.

US DOT's opposition to the Commission's initial proposal does not place that agency on an island. In fact, the exact opposite is true. All 50 state DOTs (plus Washington D.C.'s and Puerto Rico's DOTs) oppose the initial proposal. It is exceedingly rare that all of the states agree

[9] NTIA, which is principally responsible for advising the President on telecommunications and technology issues, uploaded the US DOT March 9 Letter to the Commission's portal and asked the Commission to "take into consideration the views and issues raised by DOT as it moves forward with this matter." See Letter from Charles Cooper, Associate Administrator for Spectrum Management, NTIA, to Commission Secretary Marlene Dortch dated March 13, 2020, "Re: In the Matter of Use of the 5.850-5.925 GHz Band; ET Docket No. 19-138".

on anything, let alone something major, but here they do. In this case, we truly have the UNITED STATES of America in opposition to the Commission's initial proposal. For the Commission to reallocate the majority of the existing 75 MHz of ITS spectrum in opposition to not only US DOT's opinion, but also in opposition to the position of every single state DOT, would be, to put it mildly, ill-advised.

In addition to the unwavering opposition of US DOT and every state DOT, the transportation community at-large opposes the Commission's initial proposal. This includes, for example, numerous associations, alliances, and other groups involved in the transportation industry in general (such as the Intelligent Transportation Society of America, American Trucking Associations, National School Transportation Association, National Association of City Transportation Officials, Truck and Engine Manufacturers Association, Alliance for Automotive Innovation, Transportation for America, Commercial Vehicle Training Association, and the American Public Transportation Association), and numerous entities focused primarily on transportation safety (such as the Commercial Vehicle Safety Alliance, The Center for Auto Safety, American Traffic Safety Services Association, Automotive Safety Council, Advocates for Highway & Auto Safety, and C2C-CC).

Moreover, the overwhelming majority of commenters in this proceeding oppose the Commission's initial proposal. This includes not only US DOT, all state DOTs, and the transportation community at-large, but also safety-related organizations, engineering groups, and other organizations that are deeply concerned about Americans' safety, including first responders. These include, for example, National Safety Council, American Public Works Association, Consumer Reports, US Technical Advisory Group to the International Organization for Standardization Technical Committee 204 on Intelligent Transport Systems, IEEE 1609

Working Group, American Society of Civil Engineers, National Public Safety Telecommunications Council, National Sheriffs' Association, and the International Association of Fire Fighters. The Commission should take into account all of their concerns. For example, first responders face extraordinary risk these days on so many fronts: if there is a way to reduce their risks when it comes to transportation safety – and there is in this proceeding – we should be supporting them.

The overwhelming majority of commenters that oppose the Commission's initial proposal include even AT&T, Qualcomm, T-Mobile USA, and LG Electronics. AT&T and Qualcomm are each heavily involved with respect to both unlicensed devices and V2X. Yet, they not only oppose the Commission's initial proposal, they don't even think it is a close call.[10]

Finally, even a bipartisan group of 38 Members of Congress, including both the Chairman and Ranking Member of the House Transportation and Infrastructure Committee, wrote to the Commission strongly urging it to retain all 75 MHz for ITS, noting, among other things, that it is rare for the state Departments of Transportation to all agree on a subject – but they agree here.[11] In that letter, the bipartisan group confirmed in no uncertain terms that the "support for the safety benefits of V2X is broad and deep."[12]

---

[10] Continental notes that the views that are out on an island in this proceeding are those relatively few proponents of the Commission's tentative proposal. Much of their arguments is based on the claim that the transportation community does not need this spectrum and that such use of it will not save lives. But with all due respect to those commenters who are heavily invested in the Wi-Fi industry, the US DOT, the state DOTs and the other commenters in the transportation industry are in far better position and have far more expertise as to what the transportation industry needs and what the impact the loss of most of the spectrum that V2X has would have on transportation safety.

[11] House Committee on Transportation and Infrastructure Letter to Chairman Pai and Commissioners O'Rielly, Carr, Rosenworcel, and Starks dated January 22, 2020 (accessed at: https://transportation.house.gov/imo/media/doc/2020-01-22%20Full%20TI%20Letter%20to%20FCC.pdf .

[12] Id. at 2.

Too much is at stake in this proceeding to push through an initial proposal that is so uniformly opposed by the agencies and entities with expertise in the transportation arena, and the overwhelming majority of commenters. As US DOT expressly states, the Commission should at a minimum, "revisit its proposal and seek broader stakeholder engagement on any reworking of the 5.9 GHz band."[13] That is, the Commission should "initiate a more robust dialogue with [US DOT] and transportation safety holders about the concerns they have raised about the proposal, as well as create a working partnership to improve the proposal for the use of the 5.9 GHz band."[14] Thus, at the very least, before concluding this proceeding, the Commission should pause and work with the transportation industry, including US DOT, to make sure that no decision is made unless and until the Commission is fully informed and has fully analyzed every single relevant issue. Any final decision adopted by the Commission should be consistent with the protection of American lives and safety, by ensuring the availability of life-saving transportation technologies that require access to the entire 5.850-5.925 GHz band, as further discussed below.

II. There Are Many Critical Current, Near Term, And Long-Term Safety And Other Benefits Of V2X

The statistics do not lie and the Commission should not ignore them. The loss of life, injuries (which are often serious), and economic harm from automobile accidents in the U.S. each year is startling. Accidents are the third leading cause of death in the U.S. behind only heart disease and cancer, and motor vehicle accidents are one of the leading causes of death by accident. In 2018, the most recent year for which data is available, there were over 6 million police-reported vehicle crashes, which resulted in 36,560 deaths, over 2,700,000 injuries, and nearly 5,000,000 of

[13] US DOT March 9 Letter, p. 3.

[14] Id. at 4.

these crashes also resulted in property damage.[15] To make this even more disturbing, motor vehicle accidents are the number one cause of death in the U.S. for children.[16] It is axiomatic that governmental actions that will cause those numbers to remain high should be avoided.

With this context in mind, in its November 20 letter to the Commission, US DOT warned that it is "imperative to the Department" that all 75 MHz remain with V2X for "transportation safety and other intelligent transportation purposes."[17] US DOT further refers to the "immense safety and other transportation benefits" of V2X.[18] If the Commission withholds these immense transportation safety benefits of V2X by reallocating most of the existing 75 MHz of spectrum, the Commission's action will have fatal consequences.

US DOT, the agency whose focus and expertise is on transportation safety, has unequivocally warned that adoption of the Commission's initial proposal would lead to numerous more deaths and injuries on the road than would otherwise be the case – as V2X will play a "key role" in reducing the number of deaths, injuries, and other societal costs of motor vehicle crashes.[19] Simply put, as US DOT concludes, by proposing to reallocate most of the existing 75 MHz away from V2X, the Commission is "jeopardizing the safety and other benefits of V2X" for Americans.[20] This is not just the view of US DOT, but also the considered judgement of state

[15] US DOT March 9 Letter, p.8. To put this into further perspective, in 2017, for example, U.S. transportation fatalities was 38,958. 37,133 on our nation roadways while the others were due to rail (761), marine (684), aviation (350) and pipeline (20).

[16] See e.g., "The Major Causes of Death in Children and Adolescents in the United States", The New England Journal of Medicine, December 20, 2018, Rebecca M. Cunningham, M.D., Maureen A. Walton, M.P.H., Ph.D., and Patrick M. Carter, M.D. (accessed at: https://www.nejm.org/doi/full/10.1056/NEJMsr1804754).

[17] US DOT November 20 Letter, p.1.

[18] US DOT March 9 Letter, p.8.

[19] Id. at p.1

[20] Id. at 4.

DOTs throughout the nation as well as numerous other expert commenters from the transportation community.

To be clear, many safety benefits of V2X exist today and will be expanding rapidly, and any suggestion to the contrary by a few commenters that any benefits are decades away is dead wrong and reflects a misunderstanding of how quickly things are now developing in this space. Indeed, US DOT confirms that "V2X technology, and the associated safety and mobility applications they support, are not merely theoretical; instead they have already become an important part of our transportation network."[21] These existing benefits, and so many more which are on the cusp of being realized as V2X technology use continues to rapidly expand, are addressed in so many of the initial comments. However, these benefits will not come anywhere close to being fully realized if undermined by the Commission in this proceeding by conceding to the commercial interests of the Wi-Fi industry and ignoring the expertise of US DOT and the state DOTs as well as so many others in the transportation industry, all of whom know far more with respect to the critical transportation safety issues being addressed in this proceeding than other commenters.

And those few commenters who claim that the benefits of V2X cannot be maximized until almost all vehicles have the technology are making the same mistake that so many others have made on so many others issues over the years – they are letting the perfect be the enemy of the good. As described in more detail in Section 5, while vehicle safety technologies in other bands can help prevent many line-of-sight (LOS) accidents, such systems cannot prevent the kinds of fatal and life-altering accidents that V2X systems in the 5.850-5.925 GHz band can prevent where there is no line-of-sight or where there is otherwise poor visibility. Non-line-of-sight and poor

[21] US DOT March 9 Letter, p.1.

visibility accidents are often deadly and the Commission should be taking every possible action now to reduce the numbers of these fatalities as much as possible, rather than pull the rug out from the technology that plays a vital role in addressing these major problems. In fact, V2X already provides life-saving non-LOS and poor visibility benefits to each driver and vulnerable road user in scenarios involving V2X equipped vehicles and deployed V2X infrastructure. Unfortunately, the Commission's actions and inactions have prevented the leveraging of these substantial existing benefits and stifled the ability of industry to realize V2X's full potential. In that regard, and by way of example only, if not discouraged by Commission leadership to abandon its plan, Toyota was planning to have its new vehicles in the U.S. include V2X by 2021, and Honda's V2X deployment plans were similarly derailed years earlier by regulatory uncertainty caused by Commission action in this area.[22]

As demonstrated by numerous commenters, retaining all 75 MHz for ITS will also help maximize the numerous critical non-safety benefits resulting from V2X technology, including:

- Economic benefits relating not only to safety but also reduction in accidents
- Less traffic congestion and therefore more time at work and for productivity
- Energy savings
- Less pollution

All of the above benefits of V2X will continue to increase rapidly as more and more vehicles and infrastructure incorporate the technology. As the public continues to experience the safety and other societal benefits of V2X, the technology will become an inherent expectation, a necessity much like what occurred with seat belts. Unless undermined by the Commission here, consumers will increasingly demand it in their vehicles because no one wants to be killed or have

[22] See e.g., Comments of American Honda Motor, Co., Inc. submitted March 9, 2020 ("Honda Comments"), p. 3-4

their loved ones die unnecessarily in preventable traffic accidents, and in turn future V2X applications will continue to be developed that will provide even greater safety benefits. However, these benefits can be fully realized only if the Commission listens to US DOT, all 50 state DOTs, and the transportation community – rather than a smattering of Wi-Fi supporters who would like a little spectrum here even though they already have a lot, and just got a boatload more in the 6 GHz band.

III. V2X Needs All 75 MHz In This Band For Safety

There is no question that V2X needs all 75 MHz in this band for safety applications that currently exist, will be deployed shortly, or will be developed in the future. To shortchange V2X here is to shortchange every single American driver, passenger, or person who crosses roadways whether on foot, bicycle, scooter, or otherwise. This is not about commercial convenience. It is first and foremost about safety. Just by way of example, some applications associated with collective perception messages, which are described on the next page, will be the only thing that will protect many vulnerable road users and others from dying in preventable motor vehicle accidents. The question is: will they have the spectrum necessary for deployment so that they can do so?

US DOT, many state DOTs, and numerous other commenters in the transportation industry, including C2C-CC, have discussed what existing and soon to be developed safety-related V2V/V2I applications will be completely inhibited, or at the very least greatly hobbled, if only 30 MHz is made available for V2X in this band. The message types and applications that will be prevented or significantly undermined if only 30 MHz remains allocated for V2X include those listed on the following page.

Message Types And Applications That Will Be Prevented or Significantly Undermined If Only 30 MHz Remains Allocated For V2X

Message Type: Collective Perception Messages (CPM)

Provides protection to, among others, Vulnerable Road Users (VRUs) like pedestrians and bicycles in cases where in-vehicle perception with radars, cameras and lidars is limited due to e.g. non-line-of-sight detection. Allows infrastructure-to-vehicle communication to warn of VRUs located in the intersection in order to avoid accidents and injuries. Also allows exchange of information between vehicles based on their own radar or camera sensor data, to increase the probability that both vehicles perceive a VRU in their surroundings. With applications that use CPM, by way of example, one vehicle can use real-time information that another vehicle or infrastructure conveys to it in order to avoid a potentially fatal crash with a pedestrian, cyclist, or a separate vehicle. That is, where the driver in one vehicle cannot see a pedestrian, cyclist, or other car that the first vehicle is about to crash into (whether due to no line-of-sight, poor visibility or otherwise), the crash can be avoided through the information the first vehicle receives from infrastructure, or another vehicle, connected with CPM.

Applications Associated with CPM include the following:
VRU accident avoidance; Accident avoidance for non-V2X-equipped VRUs; Overtaking Warning with collective perception; Extended Intersection Collision Warning with collective perception; Cooperative awareness of objects on the street; Wrong way vehicle warning in cases of non-V2X equipped wrong way vehicles

Message Type: Maneuver Coordination Messages (MCM)

MCM allows vehicles to exchange information with each other regarding their intended driving paths to assist negotiation of high-risk scenarios. Applications that use MCM can greatly advance automated driving and make it much more efficient and far more in flow with traffic (much less stop-and-go).

Applications Associated with MCM include the following:
Cooperative Lane Change: opening gaps for vehicles to safely change lanes; Cooperative Overtaking: opening gaps for vehicles to safely overtake; Maneuver coordination for automated driving: exchange of intended driving paths; Cooperative Merging; Improved cooperative driving applications, e.g., improved Intersection Movement Assist and improved Left Turn Assist

Message Type: Platooning Control Messages (PCM):

Platoons decrease the distances between vehicles, thereby allowing multiple vehicles to accelerate or brake in a coordinated fashion, and having fewer disassociated trucks on U.S. highways. PCM applications also allow for a closer distance between vehicles by eliminating the need for human reaction, and thereby also eliminate the potential for human error from so many truck drivers.

Applications Associated with PCM include the following:
Truck platooning, vehicle platooning: high density driving of truck and vehicles for effective road usage and reduced emissions

Future Applications and Future Message Types

There will almost certainly be many future applications under the above message types as well as future message types – all of which may very well require additional spectrum.

Indeed, if only 30 MHz remains for ITS, at most Basic Safety Messaging will be available. Those few commenters who claim that all that is needed for V2X is 30 MHz never give a factual basis for why the applications described above are unnecessary. And the reason is simple – they have no factual response. They are just hoping the Commission relies on their bald conclusion. The truth is all 75 MHz is needed for V2X to provide the existing safety and soon to be deployed safety applications to which the public must have access.

Not only will limiting V2X to 30 MHz literally destroy the ability to use life-saving transportation technologies already in existence today, and others soon to be deployed, adoption of the Commission's initial proposal would completely eliminate the ability of the automotive industry to develop new life-saving technologies in the future. The Commission should take an approach here that is future-proof, rather than one that is short-sighted.

Ironically, in the Notice, the Commission emphasized the need to consider the development of future Wi-Fi applications and technologies that do not exist today. But the very same thing is true regarding safety technologies relating to transportation. To date, the Commission's forward thinking in this proceeding is limited to encouraging ways to add more to the Wi-Fi non-safety grab-bag, but it should, more importantly, consider ensuring the safety of current and future generations of drivers, passengers and pedestrians.

IV. Many Other Countries Have Already Allocated 70 or 75 MHz For V2X Or Are Heading In That Direction

Late last year, the International Telecommunications Union at its World Radio Conference issued a recommendation that 75 MHz be allotted for V2X.[23] One thing is for certain -- it didn't

[23] World Radio Conference 2019 (WRC19) in WRC recommendation 208 in in conjunction with ITS ITU-R recommendation M.2121-0

do this because only 30 MHz was needed for safety. If that were the case, the ITU would have never made the recommendation that it did.

Moreover, other countries have already allocated either 70 or 75 MHz for V2X, including Canada, Russia, South Korea, Australia, Singapore, and United Arab Emirates. So, if the U.S. slashes the spectrum allocation from 75 MHz to 30 MHz for V2X it will fall far behind in terms of what it can use with respect to these life-saving technologies. In addition, many other parts of the world are seeking to expand what they are allocating. No regulating entity in the world that we are aware of -- other than the Commission in this proceeding -- is looking to decrease the spectrum allocation for these technologies in its country. The trend is in one direction, and yet the Commission's initial proposal is in the other. For example, both the European Union and Japan are seeking to expand their allocations, recognizing that what they currently allocated is simply not enough.

If the Commission adopts the approach suggested in its initial proposal, the U.S. will no longer be a leader, it will be left behind. Moreover, the investments in this technology will go elsewhere, not to this country. A lack of spectrum for V2X deployment in the U.S. will result in the technology being developed in other countries, with the associated highly-skilled advanced transportation safety jobs and monetary investments moving to such other countries. It will also likely result in V2X-related intellectual property and patents being developed outside of the United States – and ironically, the technology behind that life-saving intellectual property could not even be deployed in the United States until at best many years down the road. In short, the United States will take a giant step backward and will cede its position as one of the global leaders for development and deployment of life-saving V2X technology.

But, most importantly, while other major countries will be saving their citizens from preventable traffic deaths, the Commission will not be doing the same here.

V. Other Applications Or Bands Are Not The Answer -- V2X Is Critical And It Needs To Remain In This Band

The Commission states that a goal of this proceeding is to "eliminate[e] uncertainty for the development and deployment of ITS applications."[24] Yet a decision that reduces the spectrum allocated for V2X to an amount far below what it needs, or which proposes starting some other proceeding to shift such operations to other spectrum bands, not only doesn't eliminate uncertainty – it increases it. And that is the last thing the Commission should want to do with life-saving technologies.

The mere existence of other vehicle safety applications in different spectrum bands does not eliminate the need for operation of V2X technologies throughout the much more favorable 5.850-5.925 GHz range, contrary to the suggestion of a handful of commenters. As US DOT explained, V2X technology "has capabilities that other vehicle technologies do not. This includes detecting approaching objects outside the line of sight, including from behind buildings or large trucks. These benefits, though, depend on the continued availability of the full 75 MHz and the assurance that V2X communications can reliably occur without interference."[25] As US DOT further discussed: "V2X signals are largely unaffected by environmental conditions, including rain, fog, snow or darkness, compared to existing onboard sensors. Thus, V2X is uniquely suited for crash scenarios characterized by late "reveal times"—i.e., those "game-changing" shifts in which the vehicles, pedestrians or other objects involved in a crash "see" each other only moments before the crash, such as intersection crashes, which account for 22 percent of all motor vehicle

[24] Notice at ¶11.

[25] US DOT March 9 Letter, p.8.

crashes. In addition to preventing crashes as the primary source of information, V2X can also augment other in-vehicle sensors to improve crash prediction capabilities in many other scenarios in which conspicuity of objects, vehicles, or pedestrians is compromised due to environmental and other factors."[26] Contrary to these technical advantages of operating V2X technologies in the 5.850-5.925 GHz range, other limited applications will not help prevent the deaths and life-altering injuries, nor the property damage, that result from non-line-of-sight or poor visibility crashes.

The Commission is thus faced with an opportunity to prevent so many non-line-of-sight or poor visibility fatal accidents, and avoid so much grieving, agony, and loss of life by retaining its commitment to V2X technology, by ensuring that such technology can utilize the entire 5.850-5.925 GHz range. The question is, will the Commission make the right choice?

Some of the handful of commenters that support the Commission's initial proposal also blithely state that V2X should just move to another spectrum band. There are numerous problems with that suggestion, even if it was within the scope of this rulemaking – which it is not.[27] First, as described by so many commenters, V2X is already being used on all channels in this band and to try to start over on another band will – even if possible – require the auto industry to rip out life-saving technology now. So much investment and effort will have been wasted.

Second, even if another band was theoretically feasible, it would take many years to regain the status quo - to get to even where we are today in the 5.9 GHz band - let alone where we need to eventually get to. Life-safety technology -- much of which already exists today or will soon be

[26] US DOT March 9 Letter, p.11. It must also be pointed out that, as US DOT and many others have made clear, V2X will also play a key role in automation and the viability of driverless cars. So many want to see that succeed for numerous reasons, and the extent to which it does, and the time period in which it does, will be heavily influenced by the outcome of this proceeding.

[27] Even if another band was workable and the U.S. would be willing to incur all of the negatives described herein (more deaths, injuries, accidents, many not even trying to start over), it is a pig in a poke. This proceeding at its core is not about assigning another band to V2X – it is simply about whether it should lose more than half of the spectrum it has been allocated in this band.

deployed -- will be delayed for many more years. But of course, during this period of time people will, as they must, continue to drive their vehicles. And as a result, traffic accidents and fatalities that would have otherwise been prevented by V2X technology, will occur.

Third, if forced to start anew and redesign V2X technology for operation in a new band, some commenters have indicated that they will halt their efforts completely. For a number of entities in this space, they have invested too much time, effort, resources, and creativity to get to where we are in the 5.9 GHz band and where we are about to be, and starting from scratch after having the rug pulled out from underneath them is simply not a viable option for them. As US DOT states, if the Commission adopts its tentative proposal "we believe that many existing deployers may …. choose to remove their existing installations and forego V2X communications fully."[28] Plus, what trust could there be that the "new" band of the moment would in fact be the final resting place for V2X? Even if another band was chosen, who is to say in a few years the Wi-Fi proponents or some other group won't come calling for that band as well.

Fourth, as many other commenters have explained, for numerous reasons other bands are not likely to be workable for V2X.

Finally, if V2X is moved to another band the international harmonization that currently exists would still exist and would continue to grow (as even the ITU, as mentioned earlier, recently issued a recommendation that countries allocate 75 MHz in the band for V2X) – except the United States would be on the outside looking in. That would not only be extremely harmful to our interests, it would be ironic. It was the United States that was the first country to allocate this entire band to ITS.

[28] US DOT March 9 Letter, p. 35.

The bottom line is that numerous American lives will be saved if V2X technology keeps the 75 MHz, and numerous American lives will be lost if it does not. It is as simple as that. In short, the safety ramifications of removing spectrum from V2X, or requiring a shift to other spectrum, would be both mammoth and deadly. US DOT calls V2X technologies "game-changing," and when it comes to reducing fatalities, serious injuries, and accidents they certainly are. In fact, in this instance game-changing means life-saving, but only if the appropriate spectrum band is available to V2X, and in the required amount.

VI. While 30 MHz Is Insufficient, V2X May Not Even Have Use Of At Least Part of That Small Amount Of Spectrum Under the Commission's Initial Proposal Because of Interference

Interference with V2X transmissions will kill – both people and trust. With respect to people, Americans will die who otherwise would have lived if V2X functionality failed due to interference caused by Wi-Fi transmissions. The Commission simply cannot enable a circumstance where people are injured or killed due to V2X messages being delayed by even a split second due to Wi-Fi interference.

With respect to trust, if V2X fails to save lives that could have been saved because of Wi-Fi interference, the public will lose trust in V2X and it will not have nearly the impact it could otherwise have had.

With Wi-Fi, the difference between a one second delayed transmission is that the entertainment or other non-safety information you were waiting to receive comes a second later. Such delay is not even noticeable. On the other hand, with V2X a one second delay can mean the difference between life and death. Therefore, preventing interference to V2X technology is not optional.

Contrary to the Commission's statement in the Notice, whether interference exists is relevant regardless of whether the applications are in the same band or adjacent bands. As US DOT correctly points out, "although the Commission indicates that its proposal moots the need for additional interference testing, that view overlooks the potential harm and impact from out-of-band interference to human life and property."[29] A fatal traffic accident due to Wi-Fi interference from an adjacent band is no different than one because of Wi-Fi interference from co-channel transmissions. Either way there is loss of life. No matter what the Commission decides in this proceeding regarding spectrum allocation, the Commission cannot in good conscience take any action to relocate or reduce V2X allocations until all interference testing has been completed, and those results are taken into account. Currently, Phase 1 testing has been completed, but Phases 2 and 3 testing have not. It is premature for the Commission to decide anything until that is done.

Moreover, US DOT states that its initial testing showed significant interference.[30] Accordingly, there is plenty to be concerned about even with respect to the viability of the insufficient 30 MHz the Commission has tentatively proposed remains with V2X. The Commission should of course have all the testing completed in coordination with US DOT before any final decisions are made.

In addition, the commenters in this proceeding have very different views with respect to what is necessary to prevent interference. Many commenters raise interference concerns, explaining that far more interference protections would be needed than the Commission is currently contemplating. Conversely, some of the handful on the other side claim even less protections are needed. Once again, the critically important issue of interference needs to be fully

[29] US DOT March 9 Letter, p.6.

[30] Id. at 45-49.

resolved before the Commission can move forward on anything – and there is no way to resolve it without having the testing completed.

VII. V2X Deployments Are Expanding Rapidly, And Any Delays Have Been Primarily The Result Of Government Action and Resulting Regulatory Uncertainties

The claim that ITS spectrum has lay fallow for two decades is misleading. As so many commenters including US DOT have shown, the fact is that V2X deployments not only exist but have been expanding rapidly over the past several years.

The significant progress made to date with respect to V2X deployment would have been far more rapid and widespread if it was not for substantial and pervasive regulatory uncertainty caused by Commission action (and inaction) since the inception of this allocation. The Commission did not even adopt rules for this band with respect to V2X until 2003, and an agreement with incumbent licensees for sharing the spectrum was not reached until 2008. It was only a few years later before new uncertainty was created as the Commission initiated a proceeding in 2013 to consider allowing unlicensed shared use in this spectrum.[31] Then when Toyota announced it was planning to include V2X in its new U.S. vehicles starting in 2021, the Commission discouraged it from doing so. Moreover, there are hundreds of additional applications pending at the Commission that have been on hold due to the temporary filing freeze the Commission has placed, and very likely many more that would have been filed were it not for the freeze. Such sustained regulatory uncertainty – caused not by the transportation industry or the public who was to be benefit from this technology – served only to counter the progress being

[31] See e.g., Honda Comments at 3-4 ("Just as this significant work was being matured and scaled for deployment, the FCC initiated a proceeding in 2013 that would propose to allow unlicensed Wi-Fi in the 5.9 GHz band. This action resulted in tremendous uncertainty for potential V2V deployments that rely on clean spectrum to provide safety critical messaging.")

made and unnecessarily delay the protection of the nation's drivers, passengers, and pedestrians.[32] The V2X industry and the general public should not be penalized for these uncertainties and any resulting delays they caused. Despite all of these factors, there has been tremendous progress with respect to V2X in the band, particularly over the last several years, and it will continue at a heightened pace unless the Commission stops that progress in its tracks in this proceeding.

VIII. Wi-Fi Does Not Need This Spectrum To Anywhere Near The Same Degree As V2X Does

As numerous commenters have pointed out, the Commission has already allocated spectrum for Wi-Fi applications and technology in many different bands. In addition, Wi-Fi has just been awarded an additional 1200 MHz in the 6 GHz band, which is greater than 26 times more spectrum than its supporters are seeking to take away from V2X in this band. Accordingly, the potential benefit in this proceeding that Wi-Fi could receive from a pure spectrum standpoint is less than 1/26 of the benefit it will now be receiving in the 6 GHz band. Simply put, the amount of spectrum that Wi-Fi is getting in the 6 GHz band dwarfs the amount it would receive here if the Commission's initial proposal is adopted.

And is there any doubt that this "1/26 non-safety benefit," as compared to what it will now be receiving in the 6 GHz band, does not stack up against what V2X and the public will be losing if the Commission takes the action it is tentatively considering here? As AT&T, which is also a significant user and provider of Wi-Fi Services over unlicensed spectrum, stated in its comments:

> "The 5.9 GHz band remains crucial for supporting *non-line-of-sight* ITS applications that will allow vehicles to exchange information which on-board *line-of-sight* sensor systems cannot provide. The information received in these V2N and V2V communications will improve traffic safety by giving vehicles more time to react to otherwise unpredictable conditions; this information will only increase in value as vehicles incorporate greater levels of automation. But, more than the 30 MHz proposed in the *Notice* for ITS use is

[32] In addition, as many commenters have explained, V2X technologies take far longer to build-out than commercial services and therefore it is hardly surprising given the uncertainties and governmental actions and inactions that it has taken time to move forward in a large way.

> needed to realize the promises of these technologies. A mere 30 MHz (10 MHz to DSRC and 20 MHz to C-V2X) would allow both technologies to support only the Basic Safety Message ("BSM") and preclude their use for advanced ITS applications and the evolution of C-V2X to 5G. Simply put, this step would freeze the development of ITS in the 5.9 MHz band, a troubling scenario for a band with the potential to deliver significant improvements in traffic safety.
>
> In comparison, reallocating the lower 45 MHz of the 5.9 GHz band for exclusively unlicensed Wi-Fi use would deliver only incremental public benefits and have a minimal impact on investment in the unlicensed device ecosystem. 45 MHz would represent a small sliver of the large unlicensed spectrum pie available to developers, but that 45 MHz controls the fate of ITS development in the 5.9 GHz band."[33]

In addition, for all the reasons described by many other commenters, it is far easier for Wi-Fi to acquire more spectrum in other bands than it is for V2X to do so.

IX. The Cost-Benefit Analysis in the Initial Proposal Is Flawed

The cost benefit-analysis[34] in the initial proposal fails to take into consideration – as so many commenters have pointed out – the extraordinary downside costs, both in terms of lives, injuries, and economic damage, that will occur if the Commission adopts its initial proposal. Just by way of example, as described by US DOT:

> "According to the most recent annual crash statistics (from 2018), our Nation faces over 6 million U.S. police-reported vehicle crashes per year, which resulted in 36,560 lives lost and over 2.7 million injuries; 4,807,058 of these crashes resulted in property damage. These crashes translate into an annual economic harm to the Nation of approximately $300 billion in direct costs and over $800 billion when accounting for the loss of life, injuries, and other quality-of-life factors. [U.S. DOT] continues to believe that V2X communications can play a significant role in reducing these crashes, particularly crashes involving conditions that remain challenging for vehicle-based technologies, such as radar. Further, numerous V2I applications exist that can help reduce congestion, which, based on estimates from the transportation industry, leads to over $166 billion in annual costs, and also assist States in maintaining their existing infrastructure."[35]

[33] Comments of AT&T dated March 9, 2020 (ET Docket No. 19-138), p.4

[34] See Notice at ¶¶63-67.

[35] US DOT March 9 Letter, p. 1-2.

On the other side of the equation, the initial proposal overestimates the benefits with respect to Wi-Fi in at least two ways. First, the initial proposal appears to assume that the RAND study in turn assumed that Wi-Fi would be receiving 45 MHz, rather than the full 75 MHz which the RAND study actually used to make its estimates. Second the RAND study itself did not even consider the value that Wi-Fi will now receive from 6 GHz and how that impacts the value of what Wi-Fi could receive here.

X. Conclusion

The Commission needs to decide what is more important: saving lives and saving hundreds of billions in costs each year by retaining all 75 MHz for V2X, or adding a 1/26 non-safety benefit for Wi-Fi. Our final thought is this: There is not one parent, child, or person who we know in this country that would think it was worth the trade-off if their loved ones are killed because Wi-Fi got this 1/26 non-safety benefit at the expense of vehicular safety technology that would have saved their family members' lives. Not one.

Respectfully submitted,

_____

Kirby Howard
Government Affairs
Continental AG
1101 K Street, N.W., Suite 1000
Washington, D.C. 20005

Alan G. Fishel
Jeffrey E. Rummel
ARENT FOX LLP
1717 K Street, NW
Washington, D.C. 20006
(202) 857-6450

Attorneys for Continental Automotive Systems

Dated: April 27, 2020